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Matthias Franz

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EXAMINER

RASHID, DAVID

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/501,253	Applicant(s) FRANZ, MATTHIAS	
	Examiner DAVID P. RASHID	Art Unit 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 August 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-17 and 19-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-17 and 19-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9/29/2008</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Amendments

[1] This office action is responsive to the Amendment received on August 18, 2008. Claims 11-17 and 19-36 remain pending; claims 21-36 new.

Response to Arguments

[2] Remarks filed August 18, 2008 with respect to claims 11-17 and 19-36 have been respectfully and fully considered, but not found persuasive.

Summary of Remarks

The Stam reference does not identically disclose (or even suggest) the feature that the image sensor is focused on an external region beyond the vehicle such that a visual obstruction on the vehicle is blurrily imaged, as provided for in the context of claims 11 and 19, as presented. In stark contrast to the present claims, the Stare reference explicitly states that "raindrops and other sources of moisture on the windshield [are] sharply focused." (Stam, col. 3, lines 62 to 63 (emphasis added)). In addition, the Stam reference explicitly states that "objects at the approximate distance of the windshield 26 are sharply in focus." (Stare, col. 4, lines 64 to 65; see *also* Stam, col. 8, line 29, and lines 34 to 35; and col. 10, lines 20 to 22, and lines 26 to 28). Thus, the Stam reference does not identically disclose (or even suggest) the feature that *the image sensor is focused on an external region beyond the vehicle such that a visual obstruction on the vehicle is blurrily imaged*, as provided for in the context of claims 11 and 19, as presented.

(Applicant's Remarks at 7, August 18, 2008.)

Examiner's Response

However, Applicant arguing that the word "focused" of a location external beyond the vehicle should be limited to a "camera focus set by the camera" is unpersuasive. Pointing the camera in a particular direction is focusing on that particular area, which includes "an external region beyond the vehicle". See Non-Final Rejection at Interpretation 1, pp. 7-8, July 1, 2007 (showing item B recorded from the image sensor is a focused portion of sphere C (all possibilities from which the image sensor can focus) under a standard definition of "focus").

In addition, allowing such focus by the camera (*i.e.*, setting the camera in such a position in the vehicle to focus on a particular area of sphere C), visual obstruction on the vehicle is blurrily imaged (“raindrops and other sources of moisture on the windshield to be sharply focused” at 3:62-63; sharp focus on specific areas of moisture on the windshield gives less focus on everything else, including

(i) the glass windshield, thus the glass windshield is blurrily imaged (since it contains a lesser amount of focus) and a visual obstruction on the vehicle; and

(ii) other areas of moisture on the windshield not in sharp focus, thus the other areas of moisture on the windshield is blurrily imaged (since it contains a lesser amount of focus) and a visual obstruction on the vehicle).

Summary of Remarks

By asserting that the word "focus" may be interpreted as "a point of concentration" to mean merely a direction in which the sensor is pointed, the Office Action plainly has not interpreted the scope of the claims in light of the specification. In this regard, the Substitute Specification makes plain throughout that "focus" does not refer merely to a direction in which the sensor is pointed, but instead refers to the difference between a focused image and a blurry image. Thus, in accordance with MPEP § 2111, it is respectfully submitted that the Office's convenient "interpretation" has not given the claims their broadest reasonable construction in light of the specification, and therefore, the Stam reference does not identically disclose (or even suggest) the feature that *the image sensor is focused on an external region beyond the vehicle*, as provided for in the context of claims 11 and 19, as presented.

(Remarks at 7.)

Examiner's Response

MPEP s. 2111 reads, in relevant part:

415 F.3d at 1316, 75 USPQ2d at 1329. See also< In re Hyatt, 211 F.3d 1367, 1372, 54 USPQ2d 1664, 1667 (Fed. Cir. 2000). Applicant always has the opportunity to amend the claims during prosecution, and broad interpretation by the examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified. In re Prater, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-51 (CCPA 1969) (Claim 9 was directed to a process of analyzing data generated by mass spectrographic analysis of a gas. The process comprised selecting the data to be analyzed by subjecting the data to a mathematical manipulation. The examiner made rejections under 35 U.S.C. 101 and 102. In the 35 U.S.C. 102 rejection, the examiner explained that the claim was

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anticipated by a mental process augmented by pencil and paper markings. The court agreed that the claim was not limited to using a machine to carry out the process since the claim did not explicitly set forth the machine. The court explained that "reading a claim in light of the specification, to thereby interpret limitations explicitly recited in the claim, is a quite different thing from reading limitations of the specification into a claim, to thereby narrow the scope of the claim by implicitly adding disclosed limitations which have no express basis in the claim." The court found that applicant was advocating the latter, i.e., the impermissible importation of subject matter from the specification into the claim.). See also *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997) (The court held that the PTO is not required, in the course of prosecution, to interpret claims in applications in the same manner as a court would interpret claims in an infringement suit. Rather, the "PTO applies to verbiage of the proposed claims the broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definitions or otherwise that may be afforded by the written description contained in applicant's specification.").

MPEP s. 2111.

However, Applicant turning to the argument that the word "focus" by Examiner's interpretation not within the scope of the claims in light of specification is unpersuasive. Examiner's interpretation of "focus" is supported by the Applicant's specification, as the Examiner understands from the specification that positioning the camera to be directed toward a specific area is a form of focusing ("as [it] would be understood by one of ordinary skill in the art"). The Examiner believes there is a difference between (i) interpreting the word "focus" to mean using a plurality of cameras (which such scope is not supported in light of the specification); and (ii) interpreting the word "focus" to mean a camera capturing an area out of all possible areas (which its scope is supported in light of the specification, because that is what the camera is already doing – see dashed lines in fig. 1 and that "[t]he image sensor is mounted behind a windshield 1" at para.0014 of Applicant's invention). Applicant's camera is being set and placed so that a particular area is being imaged. The Examiner would not understand what the camera of Applicant's invention is doing other than "focusing" on a particular area (of all possible areas it could) to describe that particular aspect of the invention. Just because "focus" has two reasonable interpretations supported in light of the specification and the Applicant uses

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one does not force the Examiner to not be able to use the second. The Examiner's interpretation is supported in light of the specification.

Furthermore, MPEP s. 2111 reads, in relevant part:

E-Pass Technologies, Inc. v. 3Com Corporation, 343 F.3d 1364, 1368, 67 USPQ2d 1947, 1949 (Fed. Cir. 2003) (Where no explicit definition for the term "electronic multi-function card" was given in the specification, this term should be given its ordinary meaning and broadest reasonable interpretation; the term should not be limited to the industry standard definition of credit card where there is no suggestion that this definition applies to the electronic multi-function card as claimed, and should not be limited to preferred embodiments in the specification.).

MPEP s. 2111.01(III).

The Examiner's interprets the word to mean the field-of-vision for which the camera points to (out of all possible fields-of-vision in a 3D sphere), whereas Applicant's interprets the word to mean a specific point/distance within said field-of-vision (a more strict interpretation over the Examiner's). The Examiner can find no "explicit definition" of the word "focus" to mean "the difference between a focused image and a blurry image" or any other equivalent (that would in effect bar the Examiner from using a reasonable broad interpretation of the word "focus"). Examiner's interpretation of the word "focus" as shown in Non-Final Rejection at Interpretation 1, pp. 7-8, July 1, 2007 stands.

Summary of Remarks

Further, the Office also asserts that spot 70 of the Stam reference is an "external region beyond the vehicle." (Office Action, p. 9). However, Figure 3 of the Stam reference clearly indicates that the spot 70 is on the windshield 26, and therefore on the vehicle. Thus, although the spot 70 may be on the exterior of the windshield 26, it is plainly still on the vehicle, and is therefore not in an external region beyond the vehicle. Thus, the Stam reference does not identically disclose (or even suggest) the feature that *the image sensor is focused on an, external region beyond the vehicle*, as provided for in the context of claims 11 and 19, as presented.

(Remarks at 8.)

Examiner's Response

However, Applicant arguing that being “on” the vehicle is not an external region beyond the vehicle is unpersuasive. An object “on” a surface, so long as it is three-dimensional will have parts of it that are separate from the surface (meaning there is a space). Those parts separate are external regions beyond the surface. By analogy, a water droplet on a windshield will have parts of that water droplet beyond the vehicle (the windshield). See Non-Final Rejection at 9, July 1, 2007.

Claim Rejections - 35 USC § 112

[3] The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 13-14, 22-23, 27, 29, 32, and 34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims recite “the blurriness”, but the independent claims from which they depend support two kinds of blurriness (the first being imaged visual obstruction blurriness in the recording step, the second being a blurriness being measured in the analyzing step; the independent claims support that both forms of blurriness may be different and unrelated) and it is unclear which blurriness it being referred to.

Claim Rejections - 35 USC § 102

[4] The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

[5] **Claims 11-17 and 19-36** are rejected under 35 U.S.C. 102(b) as being anticipated by U.S.

Patent No. 5,923,027 (issued Jul. 13, 1999, *hereinafter* “Stam et al.”).

Regarding **claim 11**, *Stam et al.* discloses a method for recognizing a visual obstruction (“moisture on a surface” at 1:8-12) using an image sensor (fig. 1) associated with a vehicle (“vehicle’s windshield” at 1:8-12), comprising:

recording an image (fig. 5, item 46) by the image sensor (fig. 1), wherein the image sensor is focused on an external region beyond the vehicle (the image sensor is “focused” on anything within its view (as opposed to something not in its view, thus not “focused” on it), including the external region to the vehicle) such that a visual obstruction (*e.g.*, fig. 1, fig. 3, item 26 OR “moisture on the windshield” at 3:43-44) on the vehicle (both glass and moisture on the glass are one the vehicle) is blurrily imaged (“raindrops and other sources of moisture on the windshield to be sharply focused” at 3:62-63; sharp focus on specific areas of moisture on the windshield gives less focus on everything else, including

(i) the glass windshield, thus the glass windshield is blurrily imaged (since it contains a lesser amount of focus) and a visual obstruction on the vehicle; and

(ii) other areas of moisture on the windshield not in sharp focus, thus the other areas of moisture on the windshield is blurrily imaged (since it contains a lesser amount of focus) and a visual obstruction on the vehicle);

analyzing the image (fig. 5, item 46) recorded by the image sensor, wherein at least one of a presence and a type of a visual obstruction (the presence of moisture/fog on the windshield; “Result” column in Table at 11:19-25) is determined by the analysis of the image (fig. 5; fig. 6), wherein the analysis includes measuring a blurriness (fig. 5, items, 48, 50, 52, 58, 64) of at least a portion of the image (a “portion” of the image is both taken in items 46, 56 in fig. 5);

producing a signal (“YES” and “NO” from item 52 in fig. 5) which indicates one of the presence and the type of the visual obstruction (the presence of moisture/fog on the windshield; “Result” column in Table at 11:19-25); and

controlling downstream systems (fig. 6, items 40, 42) based on the signal.

Regarding **claim 12**, *Stam et al.* discloses the method of claim 11, wherein the at least one of the presence and the type of the visual obstruction (the presence of moisture/fog on the windshield; “Result” column in Table at 11:19-25) is determined by measuring a relative blurriness of different parts (“EACH PIXEL” in item 48 of fig. 5) of the image (fig. 5, item 46).

Regarding **claim 13**, *Stam et al.* discloses the method of claim 11, wherein the blurriness is measured based on one of a contrast spectrum of the image, a Fourier spectrum (“LAPLACIAN” in item 48 of fig. 5; equation (1) being the Fourier also used), and a autocorrelation function of the image.

Regarding **claim 14**, *Stam et al.* discloses the method of claims 11, wherein the at least one of the presence and the type of visual obstruction (the presence of moisture/fog on the windshield; “Result” column in Table at 11:19-25) is determined based on a measured distribution (“SUM THE RESULTS” in item 48 of fig. 5) of the blurriness by comparison (fig. 5, items 50, 52) with reference distributions (“ZERO CALIBRATION” in item 50 of fig. 5).

Regarding **claim 15**, *Stam et al.* discloses the method of claim 11, wherein an analysis of at least one image recorded (fig. 5, item 56) after an initial wiping operation (fig. 5, item 54) on a windshield of a motor vehicle (“vehicle’s windshield” at 1:8-12) is used to determine whether to initiate a next wiping operation (“STORE AS CALIBRATION” in item 64 of fig. 5 to be used again to actuate wipers in the future in item 54 of fig. 5).

Regarding **claim 16**, *Stam et al.* discloses the method of claim 15, wherein the determination regarding the next wiping operation (next wiping operation after initial loop from item 46 to 64 in fig. 5 already occurred to produce new calibration data from item 64 in fig. 5) is based on blurriness of a first image (“ACQUIRE IMAGE” in item 64 of fig. 5 and creating the calibration data from it to be later used) that was recorded immediately after the initial wiping operation (fig. 5, item 54) in comparison to blurriness of an image recorded subsequent (second loop from item 46 to 64 is now based off of new calibration (from item 64 of first loop) in items 50, 52) to the first image .

Regarding **claim 17**, *Stam et al.* discloses the method of claim 11, further comprising:
turning on a windshield light if a scene has a contrast below a predetermined threshold (Col. 9:56-67 wherein the contrast is “dark conditions” as opposed to normal).

Regarding **claim 18**, *Stam et al.* discloses the method of claim 11, wherein the image sensor (fig. 2) is focused on a region external (fig. 3, item 70; “Exterior Fog” in “Result” column in Table at 11:19-25) to the vehicle.

Regarding **claim 19**, claim 11 recites identical features as in claim 19. Thus, references/arguments equivalent to those presented above for claim 11 are equally applicable to claim 19.

Regarding **claim 20**, *Stam et al.* discloses the device of claim 19, wherein the signal (“YES” signal from item 52 of fig. 5) is used to control at least one of windshield wipers (fig. 5, item 54), windshield heating systems, and windshield washer systems.

Regarding **claim 21**, claim 12 recites identical features as in claim 21. Thus, references/arguments equivalent to those presented above for claim 12 are equally applicable to claim 21.

Regarding **claim 22**, claim 13 recites identical features as in claim 22. Thus, references/arguments equivalent to those presented above for claim 13 are equally applicable to claim 22.

Regarding **claim 23**, claim 14 recites identical features as in claim 23. Thus, references/arguments equivalent to those presented above for claim 14 are equally applicable to claim 23.

Regarding **claim 24**, claim 15 recites identical features as in claim 24. Thus, references/arguments equivalent to those presented above for claim 15 are equally applicable to claim 24.

Regarding **claim 25**, claim 16 recites identical features as in claim 25. Thus, references/arguments equivalent to those presented above for claim 16 are equally applicable to claim 25.

Regarding **claim 26**, claim 17 recites identical features as in claim 26. Thus, references/arguments equivalent to those presented above for claim 17 are equally applicable to claim 26.

Regarding **claim 27**, claims 13 and 20 recite identical features as in claim 27. Thus, references/arguments equivalent to those presented above for claims 13 and 20 are equally applicable to claim 27.

Regarding **claim 28**, claim 12 recites identical features as in claim 28. Thus, references/arguments equivalent to those presented above for claim 12 are equally applicable to claim 28.

Regarding **claim 29**, claim 14 recites identical features as in claim 29. Thus, references/arguments equivalent to those presented above for claim 14 are equally applicable to claim 29.

Regarding **claim 30**, claims 15-16 recite identical features as in claim 30. Thus, references/arguments equivalent to those presented above for claims 15-16 are equally applicable to claim 30.

Regarding **claim 31**, claim 17 recites identical features as in claim 31. Thus, references/arguments equivalent to those presented above for claim 17 are equally applicable to claim 31.

Regarding **claim 32**, claims 13 and 20 recite identical features as in claim 32. Thus, references/arguments equivalent to those presented above for claims 13 and 20 are equally applicable to claim 32.

Regarding **claim 33**, claim 12 recites identical features as in claim 33. Thus, references/arguments equivalent to those presented above for claim 12 are equally applicable to claim 33.

Regarding **claim 34**, claim 14 recites identical features as in claim 34. Thus, references/arguments equivalent to those presented above for claim 14 are equally applicable to claim 34.

Regarding **claim 35**, claims 15-16 recite identical features as in claim 35. Thus, references/arguments equivalent to those presented above for claims 15-16 are equally applicable to claim 35.

Regarding **claim 36**, claim 17 recites identical features as in claim 36. Thus, references/arguments equivalent to those presented above for claim 17 are equally applicable to claim 36.

Conclusion

[6] Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

[7] Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID P. RASHID whose telephone number is (571)270-1578. The examiner can normally be reached Monday - Friday 7:30 - 17:00 ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vikkram Bali can be reached on (571) 272-74155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David P. Rashid/
Examiner, Art Unit 2624

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